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Atty. Dkt. No. 035451-0127 (3626.Palm)



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Cheri et al.

Title: CONTROL OF BRIGHTNESS  
AND CONTRAST BY  
AVERAGING

Appl. No.: 09/842,561

Filing Date: 4/25/2001

Examiner: Caschera, Antonio A.

Art Unit: 2676

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TRANSMITTALMail Stop **APPEAL BRIEF – PATENTS**

Commissioner for Patents

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Sir:

Transmitted herewith are the following documents for the above-identified application.

☒ Brief On Appeal (22 pages).

☒ Credit Card Payment of \$500.00 for Appeal Fee. The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447.

Respectfully submitted,

Date 3/24/2006By Chad E. Bement

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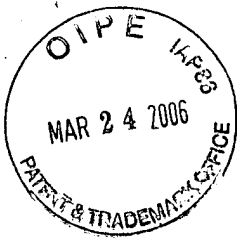
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Registration No. 54,991

Application No. 09/842,561



Atty. Dkt. No. 035451-0127 (3626.Palm)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Cheri et al.

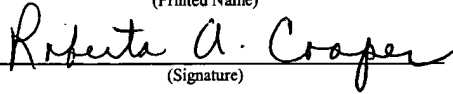
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**BRIEF ON APPEAL**

Mail Stop **APPEAL BRIEF - PATENTS**

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Under the provisions of 37 C.F.R. § 41.37, this Appeal Brief is being filed together with a credit card payment form in the amount of \$500.00 covering the 37 C.F.R. 41.20(b)(2) appeal fee. If this fee is deemed to be insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 06-1447.

This paper is being filed in response to the final Office Action dated October 25, 2005 (finally rejecting claims 1-17). The Notice of Appeal was filed on January 25, 2006. Appellants respectfully request favorable reconsideration of the application.

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**1. REAL PARTY IN INTEREST**

The real party in interest is the assignee of record, Palm, Inc. (as recorded in the records of the United States Patent and Trademark Office at Reel/Frame 011758/0603 on April 25, 2001).

**2. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences that will directly affect, be directly affected by, or have a bearing on the present appeal, that are known to Appellants or Appellants' patent representative.

**3. STATUS OF CLAIMS**

This is an appeal from the final Office Action dated October 25, 2005, finally rejecting claims 1-17. Claims 1-17 are on appeal.

**4. STATUS OF AMENDMENTS**

Claims 1-17 were pending in the application when a final Office Action dated October 25, 2005 was issued. No claims have been amended in the present application subsequent to the receipt of the final Office Action dated October 25, 2005.

**5. SUMMARY OF CLAIMED SUBJECT MATTER**

Independent claim 1 is directed to a handheld computer (100, 200). The handheld computer (100, 200) includes a housing and a display (113, 213) supported by the housing, the display having a front surface (see Specification, pages 3-4, paragraph [0015]; FIGS. 1 and 4). The handheld computer (100, 200) also includes computing electronics (205) supported by the housing and configured to communicate with the display (113, 213) (see Specification, pages 5-6, paragraphs [0020]-[0022]; FIGS. 2-3). The handheld computer (100, 200) also includes at least two light sensors (121, 123, 221, 222, 223, 224), each light sensor configured to provide

input to the computing electronics (205) regarding ambient light conditions at the front surface of the display (113, 213) (see Specification, pages 4-5, paragraphs [0016]-[0019], page 6, paragraph [0022]; FIGS. 1, 3, and 4). The computing electronics (205) are configured to adjust at least one of a brightness factor of the display (113, 213) and a contrast factor of the display (113, 213) based on the input of the at least two light sensors (121, 123, 221, 222, 223, 224) (see Specification, pages 6-8, paragraphs [0021]-[0025]; FIG. 3).

Independent claim 8 is directed to a method for controlling a display (113, 213) in a mobile electronic device (100, 200). The method includes providing a first signal (402, 404) indicative of lighting conditions at a first position relative to the display device (113, 213) (see Specification, page 6, paragraph [0022]; FIG. 3). The method also includes providing a second signal (402, 404) indicative of lighting conditions at a second position relative to the display device (113, 213) (see Specification, page 6, paragraph [0022]; FIG. 3), wherein the first position and the second position are on a same side of the display device (113, 213) (see Specification, page 6, paragraph [0022]; FIGS. 1 and 4). The method also includes generating a control signal (412, 414) based on the first and second signals (402, 404) (see Specification, page 7, paragraph [0023]; FIG. 3). The method also includes adjusting at least one of a brightness factor of the display device (113, 213) and an intensity factor of the display device (113, 213) using the control signal (see Specification, pages 6-8, paragraphs [0021]-[0025]; FIG. 3).

Independent claim 13 is directed to a method for controlling the display (see Specification, pages 6-8, paragraphs [0021]-[0025]; FIG. 3) of a mobile electronic device (100, 200). The method includes providing a first signal (402, 404) indicative of lighting conditions at a first position relative to the display device (113, 213) (see Specification, page 6, paragraph [0022]; FIG. 3). The method also includes providing a second signal (402, 404) indicative of lighting conditions at a second position relative to the display device (113, 213) (see Specification, page 6, paragraph [0022]; FIG. 3). The method also includes providing a third signal (402, 404) indicative of lighting conditions at a third position relative to the display device (113, 213) (see Specification, page 5, paragraph [0019], pages 7-8, paragraph [0025]; FIG. 4).

The method also includes providing a fourth signal (402, 404) indicative of lighting conditions at a fourth position relative to the display device (113, 213) (see Specification, page 5, paragraph [0019], pages 7-8, paragraph [0025]; FIG. 4). The first position, the second position, the third position and the fourth position are on a same side of the display device (see Specification, page 5, paragraph [0019]; FIG. 4). The method also includes generating a control signal (412, 414) using the first, second, third and fourth signals (see Specification, page 7, paragraph [0023]; FIG. 3). The method also includes adjusting at least one of a brightness factor of the display device (113, 213) and an intensity factor of the display device (113, 213) using the control signal (see Specification, pages 6-8, paragraphs [0021]-[0025]; FIG. 3).

**6. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The issues on appeal are (1) whether claims 1-11 and 13-16 may properly be rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,270,818 (“Ottenstein”) in view of U.S. Patent No. 5,952,992 (“Helms”); and (2) whether claims 12 and 17 may properly be rejected under 35 U.S.C. § 103(a) as being unpatentable over Ottenstein in view Helms and further in view of U.S. Patent No. 5,933,089 (“Katada”).

**7. ARGUMENT**

All claim rejections at issue in this appeal are made under 35 U.S.C. § 103(a)<sup>1</sup>. The legal standards under 35 U.S.C. § 103(a) are well-settled.

Obviousness under 35 U.S.C. § 103(a) is a legal conclusion involving four factual inquiries:

- (1) the scope and content of the prior art;

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<sup>1</sup> “A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.” 35 U.S.C. §103(a).

- (2) the differences between the claims and the prior art;
- (3) the level of ordinary skill in the pertinent art; and
- (4) secondary considerations, if any, of non-obviousness.

Litton Systems, Inc. v. Honeywell, Inc., 87 F. 3d 1559, 1567, 39 U.S.P.Q. 2d 1321, 1325 (Fed. Cir. 196). See also Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

In proceedings before the Patent and Trademark Office (PTO), the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. In re Piasecki, 745 F.2d 1468, 1471-72, 223 U.S.P.Q. 785, 787-88 (Fed. Cir. 1984). A prima facie case of obviousness requires that the prior art reference or references teaches or suggests all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). "The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992); In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988); In re Lalu, 747 F.2d 703, 705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 297 n.24, 227 U.S.P.Q. 657, 667 n.24 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 782 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. See W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983). It is improper to combine references where the references teach away from their combination. See In re Grasselli, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983). When a reference teaches away from the claimed invention, that teaching is strong evidence of non-obviousness. See U.S. v. Adams, 383 U.S. 39, 148 U.S.P.Q. 79 (1966); In re Royka, 490 F. 2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If the proposed combination of the references would change the principle of operation of the reference

being modified, the teachings of the references are not sufficient to render the claims prima facie obvious. See In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). If proposed modification would render the prior art unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See In re Gordon, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Proceeding contrary to accepted wisdom is evidence of non-obviousness. See In re Hedges, 783 F.2d 1038, 228 U.S.P.Q. 685 (Fed. Cir. 1986).

As noted by the Federal Circuit, the “factual inquiry whether to combine references must be thorough and searching.” McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 60 USPQ.2d 1001 (Fed. Cir. 2001). Further, it “must be based on objective evidence of record.” In re Lee, 277 F.3d 1338, 61 USPQ.2d 1430 (Fed. Cir. 2002). The teaching or suggestion to make the claimed combination must be found in the prior art, and not in the applicant’s disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ.2d 1430 (Fed. Cir. 1990). “It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to ‘[use] that which the inventor taught against its teacher.’” Lee (citing W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983)).

## II. REJECTION OF CLAIMS 1-11 AND 13-16 UNDER 35 U.S.C. § 103(a) BASED ON OTTENSTEIN IN VIEW OF HELMS

In the final Office Action dated October 25, 2005, the Examiner rejected claims 1-11 and 13-16 under 35 U.S.C. § 103(a) as being unpatentable over Ottenstein in view of Helms. The Examiner’s rejection of claims 1-11 and 13-16 under 35 U.S.C. § 103(a) based on the combination of Ottenstein and Helms should be reversed because the Examiner has failed to establish a prima facie case of obviousness with regard to claims 1-11 and 13-16. More specifically, for at least the reasons stated below, no proper combination of Ottenstein and Helms teaches or suggests the subject matter of claims 1-11 and 13-16.

**A. The Examiner's Rejection of Claims 1-11 and 13-16 Should Be Reversed Because There Is No Suggestion to Combine the Teachings of Ottenstein and Helms.**

To establish a prima facie case of obviousness based on a combination of prior art references under 35 U.S.C. § 103(a), the Examiner must first show that there is a suggestion or motivation to combine the teachings of these references. To satisfy this burden, the Examiner must show some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). In this case, the Examiner has not established that there would have been motivation or suggestion to combine the teachings of Ottenstein and Helms.

In the final Office Action dated October 25, 2005, the Examiner acknowledged that "Ottenstein however, does not explicitly disclose the intended use of the invention for handheld computers." The Examiner further stated, however that "Helms discloses the use of two photodetectors to detect ambient light directed to a display (see column 4, lines 41-51 and #14', 410 of Figure 4), the display comprised within a laptop computer or a handheld device (see Figure 1)." The Examiner concluded that:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness adjustment techniques of Ottenstein with the handheld computer display of Helms in order to extend the application of Ottenstein's invention to a mobile computing device, making the invention more portable and user friendly (see columns 1-2, lines 56-2 of Helms and also see In re Lindberg, 93 USPQ 23 (CCPA 1952)).

The Examiner thus suggests that by reciting a "handheld computer" (as in claim 1) or a "mobile electronic device" (as in claims 8 and 13), Appellents have merely made the invention of Ottenstein portable or movable. However, it is inappropriate for the Examiner to rely on legal



precedent (i.e., Lindberg) to provide the rationale supporting obviousness where the facts are not sufficiently similar to those in the application. See In re Eli Lilly & Co., 902 F.2d 943, 14 U.S.P.Q.2d 1741 (Fed. Cir. 1991). Here, Appellants' recitation of a "handheld computer" (as in claim 1) or a "mobile electronic device" (as in claims 8 and 13) involves more than merely making Ottenstein's lighting system for airplane cockpit displays portable. The subject matter of claims 1, 8, and 13 is concerned with the particular problems associated with the continuously changing lighting conditions often associated with handheld computers and similar mobile electronic devices. For example, as Appellants explain in paragraph [0025] of their specification, multiple sensors on the face of a handheld computer may provide a more accurate estimate of lighting conditions because single light sensors used in handheld computers and similar mobile electronic devices may be obscured by a finger or other object or the like. Such problems are not inherent with laptop computers and are therefore not addressed in Helms. This noted difference is particularly evinced by the disclosed use of a detector on the rear of the display in Helms, which would often be obscured if employed on the rear side of a handheld computer by a hand or work surface, essentially leaving a single sensor on the front which may be obscured by the hand or object used to operate the handheld computer. Such problems are also not inherent with cockpit displays for airplanes and are therefore not addressed in Ottenstein. Thus, Appellants submit that the subject matter of claims 1, 8, and 13 involves more than merely making Ottenstein's lighting system for airplane cockpit displays portable, and further submit that no such motivation exists for combining the teachings of Helms, relating to laptop computers, with the teachings of Ottenstein, relating to airplane cockpit displays.

In the final Office Action dated October 25, 2005, the Examiner further stated that:

[S]ince Helms already discloses the "essence" of the invention as recited in the claims except for details regarding ambient light sensor configurations, which are fully disclosed by Ottenstein, the Office believes that the techniques of Ottenstein's invention would be directly applicable with the computing environment of Helms' and could be easily combined as Ottenstein uses hardware that is directly applicable to mobile or handheld computing devices such as a microprocessor and various switches.

The Examiner further stated in response to Appellants' arguments filed August 17, 2005 that:

Both references are directed to automatically adjusting a computer system display using low ambient light conditions via sensor input data and therefore the Office believes the combination of these references to be just as the brightness techniques of Ottenstein would, for purposes of improving the viewing of multi-light condition displays while conserving energy, have been obvious to combine with the techniques of Helms whom employs a mobile display device subject to such multi-light conditions.

Appellants submit that this conclusion fails to consider Ottenstein and Helms in their entirety, including disclosure that teaches away from their combination. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. See W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983). It is improper to combine references where the references teach away from their combination. See In re Grasselli, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983). Viewed as a whole, the disclosure of Ottenstein specifically teaches away from a combination with teachings of Helms. For example, Helms discloses that:

[I]t is apparent that a user could significantly increase the runtime between battery changes ... by taking advantage of ambient light conditions that increase the visibility of the LCD, that is, low ambient light, and decreasing the brightness level of the LCD whenever the PC is being operated in such lighting conditions.

See Helms, col. 1, lines 43-49. Helms further states that "a technical advantage achieved with the invention is that it provides increased run time between battery changes by lowering the brightness level of an LCD during use in low ambient light conditions." See Helms, col. 2, lines 36-39. Thus Helms, when viewed as a whole, teaches the advantages of using its disclosed invention in low ambient light conditions to minimize power consumption and increase runtime between battery changes, and is specifically designed to take advantage of low ambient light conditions rather than to address bright ambient lighting conditions.

In contrast, Ottenstein teaches that “[t]he auto brightness control of the present invention is designed to automatically adjust brightness to maintain a constant contrast over changes in the reflected ambient light.” See Ottenstein, col. 3, lines 16-19. Ottenstein discloses that “the present invention ... provides compensation for the effects of sunlight in an avionics cockpit display.” See Ottenstein, col. 1, lines 40-41. Ottenstein specifically states further that “the automatic brightness control need not and should not operate at low ambient light levels, say less than 10% of maximum.” See Ottenstein, col. 3, line 68 – col. 4, line 2. Thus, Ottenstein is specifically designed to operate in an environment of and address the effects of bright ambient lighting conditions. While Helms specifically teaches the advantages of using its disclosed invention in low ambient light conditions, Ottenstein, viewed as a whole, specifically teaches away from such usage by stating to the contrary that its disclosed invention should not be used at low ambient light levels and placing limits on operation at a particular lighting level.

In response to Appellants’ arguments filed on August 17, 2005 the Examiner stated that “Ottenstein performs his invention, nonetheless, within a low ambient light environment” and that “Ottenstein does in fact operate upon low ambient light, the low ambient light level required to be greater than or equal to 10% of maximum.” The Examiner further stated that “since Applicant’s claimed invention does not set any levels to low ambient light, the Office interprets such 10% of maximum equivalent to a low ambient light level condition.” Appellants submit that, regardless of whether Appellants’ claimed subject matter does or does not set levels for low ambient light, one of ordinary skill in the art would not be motivated to combine Helms with Ottenstein. Helms, viewed as a whole, teaches the advantages of using its disclosed invention in low ambient light conditions and is specifically designed to take advantage of low ambient light conditions rather than to address bright ambient lighting conditions. Ottenstein, viewed as a whole, teaches away from Helms by requiring a specific level of ambient light in which to operate. Indeed, Ottenstein should not operate below a specific level of light. Accordingly, the combined teachings of Ottenstein and Helms, when viewed as a whole, are not sufficient to render the subject matter of claims 1, 8, and 13 *prima facie* obvious because there is no suggestion or motivation to combine the teachings of these references.

Appellants also disagree with the Examiner's statement that there is any sort of "essence" of the subject matter claimed in claims 1, 8, or 13 that is disclosed in Helms to any degree such that one of ordinary skill in the art would be motivated to combine the teachings of Helms, relating to laptop computers, with the teachings of Ottenstein, relating to airplane cockpit displays, in order to somehow arrive at the subject matter of claims 1, 8, or 13. Distilling the invention down to the "gist" or "thrust" of an invention disregards the requirement of analyzing the subject matter "as a whole." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), cert denied, 469 U.S. 851 (1984). As explained above, the subject matter of claims 1, 8, and 13 is concerned with the particular problems associated with the continuously changing lighting conditions often associated with handheld computers and similar mobile electronic devices. For example, as Appellants explain in paragraph [0025] of their specification, multiple sensors on the face of a handheld computer may provide a more accurate estimate of lighting conditions because single light sensors used in handheld computers and similar mobile electronic devices may be obscured by a finger or other object or the like. Such problems are not inherent with laptop computers and are therefore not addressed in Helms. This noted difference is particularly evinced by the disclosed use of a detector on the rear of the display in Helms, which would often be obscured if employed on the rear side of a handheld computer by a hand or work surface, essentially leaving a single sensor on the front which may be obscured by the hand or object used to operate the handheld computer. Such problems are also not inherent with cockpit displays for airplanes and are therefore not addressed in Ottenstein. Thus, no such motivation exists for combining the teachings of Helms, relating to laptop computers, with the teachings of Ottenstein, relating to airplane cockpit displays.

Because the Examiner has not properly established motivation to combine the teachings of Ottenstein and Helms, the Examiner has failed to establish a proper case of obviousness. Without a proper motivation to combine the teachings of Ottenstein and Helms, it is apparent that hindsight reasoning has been used that relies on Appellants' own disclosure as a roadmap.

Accordingly, the rejections of claims 1, 8, and 13 under 35 U.S.C. § 103(a) should be reversed. Additionally, claims 2-7 (which depend from claim 1), claims 9-11 (which depend from claim 8), claims 14-16 (which depend from claim 13) are patentable for at least the same reasons as the independent claims from which they depend, the rejection of these claims under 35 U.S.C. § 103(a) should be reversed for at least the same reasons as the independent claims from which they depend. See 35 U.S.C. § 112 ¶ 4.

**B. The Examiner's Rejection of Claim 2 Should Be Reversed Because the Combination of Ottenstein and Helms Does Not Teach or Suggest At Least One Element of Claim 2.**

Even if the teachings of Ottenstein could be properly combined with Helms, the subject matter of claim 2 still would not have been obvious to one of ordinary skill in the art at the time of the invention for at least the following additional reason.

A prima facie case of obviousness requires that the prior art reference or references teaches or suggests all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). The combination of Ottenstein and Helms does not teach or suggest at least one element of claim 2. Accordingly, the Examiner has failed to establish a prima facie case of obviousness, and the rejection of claim 2 should be reversed.

With regard to claim 2, the cited combination of Ottenstein and Helms does not teach or suggest "wherein the at least two light sensors are disposed near opposing edges of the display" as recited in the combination of elements of claim 2. In the Office Action dated October 25, 2005, the Examiner stated with regard to claim 2 that "Helms also discloses the two photodetectors on opposite sides of the display (see #14' and 410 of Figure 4)." Helms, however, discloses that photodetector 14' and photodetector 410 are on opposite sides of the lid 13,' and not that photodetector 14' and photodetector 410 are on opposing edges of LCD 12. Thus, the cited combination of Ottenstein in view of Helms does not teach or disclose the limitation "wherein the at least two light sensors are disposed near opposing edges of the display" as recited in the combination of elements of claim 2. Because the cited combination of

Ottenstein and Helms does not teach or suggest a flexible, expandable, or foldable display, the rejection of claim 2 under 35 U.S.C. § 103(a) should be reversed.

**III. REJECTION OF CLAIMS 12 AND 17 UNDER 35 U.S.C. § 103(a) BASED ON OTTENSTEIN IN VIEW OF HELMS AND FURTHER IN VIEW OF KATADA.**

In the final Office Action dated October 25, 2005, the Examiner rejected claims 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Ottenstein in view of Helms and further in view of Katada. The Examiner's rejection of claims 12 and 17 under 35 U.S.C. § 103(a) based on the combination of Ottenstein, Helms, and Katada should be reversed because the Examiner has failed to establish a prima facie case of obviousness with regard to claims 12 and 17. More specifically, for at least the reasons stated below, no proper combination of Ottenstein, Helms, and Katada teaches or suggests the subject matter of claim 12 or 17.

To establish a prima facie case of obviousness based on a combination of prior art references under 35 U.S.C. § 103(a), the Examiner must first show that there is a suggestion or motivation to combine the teachings of these references. To satisfy this burden, the Examiner must show some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). In this case, the Examiner has not established that there would have been motivation or suggestion to combine the teachings of Ottenstein, Helms, and Katada.

In the final Office Action dated October 25, 2005, the Examiner acknowledged that "neither [Ottenstein nor Helms] explicitly disclose generating a contrast control signal along with the brightness control signal." The Examiner further stated, however, that "Katada discloses the

contrast being adjusted by setting the contrast adjustment signal corresponding to light detected by light sensors (see column 7, lines 8-20).” The Examiner concluded that:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic display brightness adjustment techniques of Ottenstein and handheld computer display of Helms with the contrast signal generation techniques of Katada in order to improve the display of text onto displays operating in environments of varying lighting conditions (see columns 2-3, lines 66-5 of Katada), such as in mobile computing applications.

Appellants respectfully disagree. As stated above, the disclosure of Ottenstein specifically teaches away from a combination of Ottenstein with teachings of Helms. Because the Examiner has not properly established motivation to combine the teachings of Ottenstein and Helms, the Examiner has failed to establish a proper case of obviousness. Accordingly, for this reason alone, the rejections of claims 12 and 17 under 35 U.S.C. § 103(a) should be reversed.

Furthermore, to modify the teachings of Ottenstein with those of Katada would change the principle of operation under which the invention of Ottenstein was designed and intended to operate. If the proposed combination of the references would change the principle of operation of the reference being modified, the teachings of the references are not sufficient to render the claims prima facie obvious. See In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). Katada teaches that “the contrast of the message displayed on the LCD 80 is automatically adjusted according to the light quantity Pu received by the light sensor.” See Katada, col. 7, lines 50-52. Thus, viewed as a whole, Katada teaches adjusting the contrast in response to ambient light conditions. Ottenstein, however, teaches that “[t]he essence of the invention is the concept of varying the foreground brightness in direct proportion to the ratio of ambient light levels, in order to maintain constant extrinsic contrast.” See Ottenstein, col. 2, lines 54-57 (emphasis added). Ottenstein further states that “[t]he auto brightness control of the present invention is designed to automatically adjust brightness to maintain a constant contrast over changes in the reflected ambient light.” See Ottenstein, col. 3, lines 16-19 (emphasis added). Thus, viewed as a

whole, Ottenstein teaches that the invention is based on adjusting brightness to maintain constant contrast. To modify the teachings of Ottenstein, as the Examiner suggests, such that the contrast were adjusted in response to ambient light conditions would disregard the explicitly stated essence of the Ottenstein invention and would thus change the principle of operation under which the invention of Ottenstein was designed and intended to operate (i.e., varying the foreground brightness to maintain a constant contrast.”

In response to Appellants’ arguments filed August 17, 2005, the Examiner stated that “Ottenstein explicitly discloses varying the contrast of the screen using the equation of line 22 which utilizing an ambient brightness level reading (see Ottenstein, col. 3, lines 24-25)” and that “[t]his shows that the contrast of the display is varied while Ottenstein’s auto brightness control is implemented.” Appellants respectfully disagree. In the passages cited by the Examiner, Ottenstein discloses that the equation in line 22 defines a constant contrast. Moreover, Ottenstein discloses that the constant contrast of the equation of line 22 is set and maintained at a level defined where the foreground and brightness level and ambient brightness levels are “‘latched’ at the last time the brightness rocker switches were operated.” Ottenstein discloses that “the last operator selected contrast will be maintained over varying ambient brightness.” See Ottenstein, col. 4, lines 25-27. Thus, Ottenstein teaches that once the contrast is manually set by the operator, the brightness control of Ottenstein uses the sensor feedback and equation 22 to vary the foreground brightness in direct proportion to the ratio of ambient light levels, in order to maintain constant extrinsic contrast.

Because the Examiner has not properly established motivation to combine the teachings of Ottenstein, Helms, and Katada, the Examiner has failed to establish a proper case of obviousness. Without a proper motivation to combine the teachings of Ottenstein and Helms, it is apparent that hindsight reasoning has been used that relies on Appellants’ own disclosure as a roadmap. Accordingly, the rejections of claims 12 and 17 under 35 U.S.C. § 103(a) should be reversed.



8. **CONCLUSION**

In view of the foregoing, Appellants submit that claims 1-11 and 13-16 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Ottenstein in view of Helms; and that claims 12 and 17 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Ottenstein in view Helms and further in view of Katada. Accordingly, Appellants respectfully request that the Board reverse all claim rejections and indicate that a notice of allowance respecting all pending claims should be issued.

Respectfully submitted,

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**CLAIMS APPENDIX**

1. A handheld computer, comprising:  
  
a housing;  
  
a display supported by the housing, the display having a front surface;  
  
computing electronics supported by the housing and configured to  
  
communicate with the display;  
  
at least two light sensors, each light sensor configured to provide input to  
the computing electronics regarding ambient light conditions at the front surface of the display;  
  
wherein the computing electronics are configured to adjust at least one of a  
brightness factor of the display and a contrast factor of the display based on the input of the at  
least two light sensors.
2. The handheld computer of claim 1, wherein the at least two light sensors  
are disposed near opposing edges of the display.
3. The handheld computer of claim 1, wherein the at least two light sensors  
further comprise four light sensors disposed on corners of a perimeter of the display.
4. The handheld computer of claim 3, wherein the at least two light sensors  
are photoelectric sensors.

5. The handheld computer of claim 4, wherein the computing electronics are configured to adjust the brightness factor and the contrast factor of the display based on the input of the at least two light sensors by averaging the at least two signals to generate a control signal.

6. The handheld computer of claim 5, further comprising providing the average of the at least two signals to an algorithm configured to generate a control signal.

7. The handheld computer of claim 1, wherein the display is one of an LCD and a TFT display.

8. A method for controlling a display in a mobile electronic device, comprising:

providing a first signal indicative of lighting conditions at a first position relative to the display device;

providing a second signal indicative of lighting conditions at a second position relative to the display device, wherein the first position and the second position are on a same side of the display device;

generating a control signal based on the first and second signals; and

adjusting at least one of a brightness factor of the display device and an intensity factor of the display device using the control signal.

9. The method of claim 8, wherein generating a control signal further comprises averaging the first and second signals.

10. The method of claim 8, wherein generating a control signal further comprises accessing a look up table based on the first and second signals to determine the control signal.

11. The method of claim 8, wherein generating a control signal further comprises providing the first and second signals to an algorithm configured to determine the control signal.

12. The method of claim 8, wherein generating a control signal further comprises generating a brightness control signal and a contrast control signal.

13. A method for controlling the display of a mobile electronic device, comprising:

providing a first signal indicative of lighting conditions at a first position relative to the display device;

providing a second signal indicative of lighting conditions at a second position relative to the display device;

providing a third signal indicative of lighting conditions at a third position relative to the display device;

providing a fourth signal indicative of lighting conditions at a fourth position relative to the display device;

wherein the first position, the second position, the third position and the fourth position are on a same side of the display device;

generating a control signal using the first, second, third and fourth signals;

and

adjusting at least one of a brightness factor of the display device and an intensity factor of the display device using the control signal.

14. The method of claim 13, wherein generating a control signal further comprises averaging the first, second, third and fourth signals.

15. The method of claim 13, wherein generating a control signal further comprises accessing a look up table based on the first, second, third and fourth signals to determine the control signal.

16. The method of claim 13, wherein generating a control signal further comprises providing the first, second, third and fourth signals to an algorithm configured to determine the control signal.

17. The method of claim 13, wherein generating a control signal further comprises generating a brightness control signal and a contrast control signal.

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None